

Treatment Practices in Pulmonary Tuberculosis by Private Sector Physicians of Meerut, Uttar Pradesh

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ABSTRACT

Background. Majority of the qualified medical practitioners in the country are in the private sector and more than half of patients with tuberculosis (TB) seek treatment from them. The present study was conducted with the objective of assessing the treatment modalities in pulmonary tuberculosis by the private physicians in Meerut City, Uttar Pradesh, India.

Methods. A cross-sectional study was carried out covering all the private physicians (graduates and postgraduates in Medicine and Chest Diseases) registered under the Indian Medical Association, Meerut Branch (n=154). The physicians were interviewed by a pre-designed and pre-tested questionnaire about the treatment modalities practiced by them.

Results. Only 43.5% private physicians had attended any Revised National Tuberculosis Control Programme (RNTCP) training in the past five years. Only 33.1% of them were aware of the International Standards of Tuberculosis Care (ISTC). Fifty-three different regimens were used to treat the patients. Majority of physicians (76%) prescribed daily regimens while 24% administered both daily and intermittent treatment. None of the private physicians prescribed exclusive intermittent regimen. Eighty-seven different treatment regimens were used for the treatment of multidrug-resistant TB (MDR-TB) with none of them prescribing standard treatment under RNTCP.

Conclusion. As majority of private practitioners do not follow RNTCP guidelines for treating TB, there is an urgent need for their continued education in this area. [Indian J Chest Dis Allied Sci 2012;54:161-163]

Key words: Tuberculosis, RNTCP, Multidrug-resistant TB.

INTRODUCTION

Tuberculosis (TB) is a disease that has severely affected communities and nations since times immemorial. A disease caused by *Mycobacterium tuberculosis*, it has affected mankind for over 5000 years. Nearly one-third of the world's population is infected with the TB bacillus and approximately 10% of them have a life-time risk of developing tubercular diseases.¹

In 2008, there were an estimated 9.4 million new cases of TB equivalent to 139 cases per 100,000 population globally.² Though India is the second-most populous country in the world, it has more new TB cases annually than any other country. In 2008, 1.98 million were estimated to have occurred in India, of whom 0.87 million were infectious cases, thus amounting to a fifth of the global burden of TB.¹

The Revised National Tuberculosis Control Programme (RNTCP) was launched in India in 1997,

after extensive field-testing for technical and programmatic feasibility and the Directly Observed Treatment, Short-course (DOTS) strategy was recognised as the most cost-effective health-care intervention. However, not all TB patients seek care through the national TB programme. A large segment of the population seek health-care from the private sector that includes private medical physicians (both allopathic as well as from indigenous systems of Medicine and Homeopathy), paramedics, physicians from private hospitals and nursing homes, Non-Governmental Organisations (NGOs) and corporate sector health-care institutions. Currently, 80% of the qualified medical personal in the country work in the private sector, and provide health-care to more than half of TB patients. As control of TB is highly dependent on adoption of a standard strategy of treatment, a need was felt to study the treatment practices of private sector physicians of Meerut city in north India for the treatment of patients with pulmonary TB.

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MATERIAL AND METHODS

The study was carried out from November 2009 to June 2010 in north Indian state of Uttar Pradesh. For the purpose of this study, a list of private practitioners (graduates and postgraduates in Medicine and Chest Diseases) registered under the Indian Medical Association, Meerut branch was obtained. The respondents were approached in person by prior appointment and were explained the purpose of the study. Those who were willing for participation were interviewed by a pre-designed and pre-tested questionnaire about the various diagnostic and treatment modalities for the management of pulmonary TB practiced by the private practitioners. The information was collected by unlinked recording and the identity of the physicians was kept confidential. Out of a total of 171 registered practitioners, 154 consented for the study. The data was analysed using Statistical Package for the Social Sciences (SPSS) version 16.0. The level of statistical significance for all tests was set at $p < 0.05$.

RESULTS

An overall response rate of 90.1% (154 out of 171) was obtained. Among those who responded, 82 (53.3%) were MD in Medicine, 58 (37.7%) were MBBS graduates and the rest 14 (9%) were chest specialists. Among these, 67 (43.5%) had undergone RNTCP training. Only 33.1% of the private physicians were aware of the ISTC. The awareness of ISTC among physicians with MBBS, MD/DNB Medicine and Chest Speciality qualification was 22.4%, 35.4% and 64.3%, respectively ($p < 0.01$) (Table 1).

It was observed that 140 (90.1%) of the respondents believed that daily regimen was more efficacious than intermittent, while 14 (9.9%) commented that they found both equally efficacious. Seventy-six percent of the respondents prescribed daily regimens while 24% administered both daily and intermittent treatments. None of the physicians prescribed exclusively intermittent regimens.

Table 1. Awareness of International Standards of Tuberculosis Care (ISTC) among private physicians in relation to their qualification

Qualification	Awareness of ISTC		
	Yes	No	Total
MBBS	13 (22.4)	45 (77.6)	58 (37.7)
MD/DNB Medicine	29 (35.4)	53 (64.6)	82 (53.3)
Chest Specialist	9 (64.3)	5 (35.7)	14 (9.0)
Total	51 (33.1)	103 (66.9)	154 (100)

Figures in parentheses indicate percentage; $\chi^2 = 9.327$, $df = 2$, $p < 0.01$

Majority (67.5%) of the physicians gave the correct drug combinations for the intensive phase of Category I pulmonary TB cases. The rest used different combinations of isoniazid (H), rifampicin (R), pyrazinamide (Z), ethambutol (E), streptomycin (S) and Levofloxacin (L). When the drug combinations as well as the duration of treatment of both the intensive and continuation phase were analysed, it was observed that 53 different regimens were being used to treat patients having pulmonary TB (Table 2).

It was noted that none of the physicians treated TB strictly in accordance with RNTCP, i.e. alternate day regimen of 2HRZE+4HR for the new cases of TB. Only, 25.2% of the physicians prescribed anti-tuberculosis treatment (ATT) as per categorisation using the correct drug combination for the correct duration, i.e. 2HRZE + 4HR, though all on a daily basis. None of the private physicians administered any supervised treatment.

Table 2. Drug combinations used for the intensive phase treatment for newly diagnosed TB patients

Drug Combination Used	Number of Private Physicians
HRZS	1 (0.6)
HRZES	14 (9.1)
HRZEL	4 (2.6)
HRZE	104 (67.5)
HRZ	16 (10.4)
HRES	1 (0.6)
HRE	10 (6.5)
HR	4 (2.6)
Total	154 (100.0)

Figure in paranthesis indicate percentage
 TB=Tuberculosis; H=Isoniazid; R=Rifampicin; Z=Pyrazinamide; S=Streptomycin; E=Ethambutol; L=Levofloxacin

Majority of the physicians (112, 72.7%) treated multidrug-resistant tuberculosis (MDR-TB). However, none of them prescribed the standard treatment as laid down under the RNTCP. As many as 87 different treatment regimens had been used. Only 25.3% of the physicians had treated MDR-TB cases for an adequate duration.

Only 24.6% of the physicians relied on negative sputum smear examination results as one of the criteria for stopping ATT. A majority of them used radiographic clearance (94.8%) and clinical improvement (87.0%) for stopping the treatment while 26.6% stopped treatment on completion of the duration of the treatment.

Enquiry was also made on the type of health-care education given by these physicians. It was observed that 63.6% emphasised for regular treatment, 48.7% for good nutritious diet, 51.3% for proper disposal of sputum, 47.4% for the practice of covering the mouth while coughing and 20.8% advised the patients to avoid close contacts with the vulnerable.

DISCUSSION

The present study noted that of the 154 physicians from the private sector, 43.5% had undergone RNTCP training in the last five years which is similar to the study by Greaves *et al*³ who reported that 48.9% of the private practitioners had received a formal/ informal training on DOTS. However, it is in contrast to the study by Thakur *et al*⁴ from Chandigarh and by Al-Maniri *et al*⁵ who found that only 17% and 11% of the private practitioners, respectively had attended TB training courses during the last five years. The difference may be due to increased sensitisation of the private physicians towards management of TB.

In contrast to our observations regarding the belief of the physicians about the efficacy of the treatment regimens, Singla *et al*⁶ stated that 18.8% of the practitioners believed daily regimen to be better than intermittent therapy while 28.7% believed that both were equally efficacious. The present study also observed that none of the physicians prescribed exclusively intermittent regimens. The preference of daily regimen over intermittent regimen was also noted by Singla *et al*.⁶

Similar to the findings of the present study, Ahmad *et al*⁷ from Sindh, Pakistan observed that 73% physicians prescribed correct treatment for the initial intensive phase for Category I. We found that 53 different regimens were used to treat pulmonary TB cases. This is in contrast to the observations made by Prasad *et al*⁸ from Lucknow, that 33 different drug combination regimens were prescribed by 449 primary doctors. Uplekar *et al*⁹ observed that 70% of the doctors prescribed 80 different regimens. There are disturbing trends that highlights poor knowledge of management of TB among physicians from the private sector.

None of the physicians from the private sector were found following the treatment recommendations of RNTCP, i.e. alternate day regimen of 2HRZE+4HR. Similar studies conducted by Thakur *et al*⁴ in Chandigarh, stated that only 7.8% knew the correct dosage combination of ATT, whereas Prasad *et al*⁸ quoted that only 55% of doctors practiced the current National Tuberculosis Programme (NTP)/World Health Organization (WHO) recommended drug regimens. Hussain *et al*¹⁰ observed that only 3.7% prescriptions met the required standard for TB patients as laid down by the NTP. However, Mahendradhata *et al*¹¹ in Jogjakarta, Indonesia found that only 27.3% of the private sector physicians prescribed treatment according to standard NTP regimens. Only 24.6% of the private sector physicians relied on negative sputum-smear examination results as one of the criteria for stopping ATT. This was consistent with the findings of Singla *et al*.⁶

CONCLUSIONS

Although one-third of private sector physicians were aware of ISTC, yet none of them had adopted intermittent regimen as prescribed by RNTCP. There is no supervision of treatment and sputum examination is being neglected as a criterion for stopping the treatment. There is an urgent need to strengthen the RNTCP training for the private sector physicians and sensitise them towards standard management of tuberculosis through continued education programmes and sensitisation workshops.

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